

CLAIMS

What is claimed is:

1. An insertion handle, comprising:
a shaft having a proximal end and a distal end; and
an engagement member disposed at the distal end of the shaft and operable to detachably engage an insertion plate that maintains first and second members of an intervertebral disc replacement device in registration with one another for substantially simultaneous insertion into an intervertebral disc space of a spinal column.
2. The insertion handle of claim 1, wherein the shaft is operable to permit the first and second members of the intervertebral disc replacement device to be at least one of inserted into and moved within the intervertebral disc space without substantially changing their orientation with respect to one another.
3. The insertion handle of claim 1, wherein the insertion handle is detachable from the insertion plate to facilitate removal of the insertion handle when the intervertebral disc replacement device is positioned within the intervertebral disc space.
4. The insertion handle of claim 3, wherein:
the insertion plate includes a base having a posteriorly directed surface directed toward the first and second members of the intervertebral disc replacement device, a spaced apart anteriorly directed surface, and an insertion member extending away from the anteriorly directed surface of the base; and
one of the insertion member of the base and the engagement member of the shaft includes a stem, and the other of the insertion member of the base and the engagement member of the shaft includes a bore such that the stem is receivable in the bore and the insertion handle and the insertion plate detachably engage one another.

5. The insertion handle of claim 4, wherein at least one of: the stem and the bore are sized and shaped for achieving frictional engagement; and at least one of the stem and the bore include tapered surfaces to achieve the frictional engagement.

6. The insertion handle of claim 4, further comprising an anti-rotational mechanism disposed at at least one of the distal end of the shaft and the stem, the anti-rotational mechanism resisting rotation of the stem within the bore and thereby assisting maintenance of the relative positions of the insertion handle and the intervertebral disc replacement device when they are engaged.

7. The insertion handle of claim 6, wherein the anti-rotational mechanism includes at least one key element disposed on one of the stem and the bore, and at least one slot element disposed on the other of the stem and the bore, the at least one key element and the at least one slot element engaging one another when the stem is disposed in the bore in order to resist rotation of the stem within the bore.

8. The insertion handle of claim 7, wherein:
the bore is disposed longitudinally within, and terminates at, the distal end of the shaft; and

at least two key elements are disposed at the distal end of the shaft and communicate with the bore such that a diameter of the bore terminating at the distal end of the shaft elastically increases as the stem is urged into the bore to facilitate frictional engagement between the stem and the shaft.

9. The insertion handle of claim 1, further comprising an actuator disposed substantially at the proximal end of the shaft and operable to cause the shaft and the insertion plate to disengage from one another.

10. The insertion handle of claim 9, wherein:
the shaft includes a longitudinal bore extending from the proximal end of the shaft toward the distal end;

the insertion handle further comprises a pushing member having a proximal end and a distal end and being slideably receivable within the longitudinal bore; and

actuation of the proximal end of the pushing member causes the distal end thereof to engage the insertion plate and separate the shaft from the insertion plate.

11. The insertion handle of claim 10, wherein:

the insertion plate includes a base having a posteriorly directed surface directed toward the first and second members of the intervertebral disc replacement device, a spaced apart anteriorly directed surface, and an insertion member extending away from the anteriorly directed surface of the base;

the insertion member of the base includes a stem and the engagement member of the shaft includes a bore such that the stem is receivable in the bore to engage the insertion handle and the insertion plate with one another; and

actuation of the proximal end of the pushing member causes the distal end thereof to engage the stem of the insertion plate and separate the shaft from the insertion plate.

12. The insertion handle of claim 10, wherein:

the proximal end of the shaft includes at least one first flange and the proximal end of the pushing member includes at least one second flange; and

respective forces applied to the first and second flanges facilitates slideable actuation of the pushing member within the longitudinal bore and engagement of the distal end of the pushing member with the stem of the insertion plate to separate the insertion handle from the insertion plate.

13. The insertion handle of claim 12, wherein the urging of the first and second flanges towards one another results in the respective forces to cause the insertion handle and the insertion plate to separate from one another.

14. An apparatus for replacing at least a portion of an intervertebral disc in a spinal column, comprising:

first and second members of an intervertebral disc replacement device;

an insertion plate detachably coupled to each of the first and second members to orient them for simultaneous insertion into an intervertebral disc space defined by respective endplates of first and second vertebral bones of the spinal column; and

an insertion handle including a shaft having a proximal end and a distal end, and an engagement member disposed at the distal end of the shaft, the engagement member being operable to detachably engage the insertion plate in order to manipulate the first and second members such that they may be at least one of inserted into and moved within the intervertebral disc space without substantially changing their orientation with respect to one another.

15. The apparatus of claim 14, wherein the apparatus is at least part of a sterile assembly disposed in a sealed package.

16. A method for replacing at least a portion of an intervertebral disc in a spinal column, comprising the steps of:

removing the portion of the intervertebral disc from the spinal column; and
manipulating an insertion handle that is detachably engaged with an insertion plate that is coupled to first and second members of an intervertebral disc replacement device such that the first and second members may be simultaneously inserted into an intervertebral disc space of the spinal column,

wherein the first and second members are engageable with and operable to permit the vertebral bones to articulate with respect to one another.

17. The method of claim 16, further comprising: manipulating the first and second members as a single unit by way of the insertion handle such that they may be at least one of inserted into and moved within the intervertebral disc space without substantially changing their orientation with respect to one another.

18. The method of claim 18, further comprising: detaching the insertion handle from the insertion plate after the first and second members have been positioned within the intervertebral disc space.

19. The method of claim 18, wherein:
the insertion handle includes a shaft having a distal end that is detachably coupled to the insertion plate, and a proximal end cooperating with an actuator that is operable to cause the shaft and the insertion plate to disengage from one another; and

the method includes manipulating the actuator to cause the distal end of the shaft to separate from the insertion plate.